acid of the upstream probe.

209. The method of claim 204 wherein the downstream probe is particular for the allele determinative sequence, and is not complementary for other alleles at the ultimate 5' nucleic acid of the downstream probe.

B1

210. The method of claim 204 wherein the downstream probe is particular for the allele determinative sequence, and is not complementary for other alleles at the penultimate 5' nucleic acid of the downstream probe.

REMARKS

Applicants file herewith a divisional application of parent applications USSN 09/290,577, which will issue as U.S. Patent No. 6,238,868 on May 29, 2001. Applicants note that the amended claim set contains two independent claims 44 and 120, and a more expansive set of dependent claims than filed in the previous parent application. Applicants submit that these dependant claims are clearly supported by the original specification as filed (including the original claims), but invite the Examiner to contact the undersigned if she has any questions regarding the location of support for any particular dependant claim.

Applicants also wish to note that independent claim 44 recites that steps a, b, and c occur at the same time. By this phrase, applicants mean that at some point during the amplification process, steps a (hybridization of the ligation probes to the target nucleic acid), b (ligation of the ligation probes into the ligation probe template) and c (SDA of the ligation probe template) occur simultaneously in the reaction mixture by the concerted action of the ligase and the SDA enzymes in the reaction mixture upon various molecules of the same species (e.g., two copies of the same

mRNA target nucleic acid.) However, step a may still occur prior to that point in time, or step c may occur after that point in time.

Applicants also note that step c recites the use of at least one SDA primer in the SDA reaction. The general enzymatic mechanism of the ligation-dependant SDA reaction is shown in Figure 23. As is self-evident from Figure 23 A and B, the utilization of a first SDA primer leads to the linear amplification of the target DNA sequence in two ways. First, the target strand is displaced in the formation of product I, allowing the further hybridization and ligation of the ligation probes (feeding back into the top of figure 23 A). Second, the strand displacement amplification reaction depicted in figure 23 B also creates a feedback loop which linearly amplifies the target nucleic acid sequence. Thus, the use of a first SDA primer for SDA amplification effectively amplifies the target nucleic acid sequence. In addition, one may utilize a second SDA amplification primer, as shown in figure 23 C, to further amplify the target nucleic acid.

Applicants request prompt consideration of the divisional application. If the Examiner has any questions regarding the application, she is invited to contact the undersigned at (949) 567-2305.

Respectfully submitted,

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Dated: May 25, 2001

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